Logan

STRING MELODY II

Users Instruction

The Logan String Melody II is the instrument of the future .... here today. In this age of synthesizers and the constant search for the "new sound" String Melody II brings to the musician the ultimate in orchestral string effects.
Many leading groups have chosen this instrument because of its fine tone and versatility.
The keyboard is divided up into two independent sections, treble and bass, to give you the greatest possible flexibility in building up your orchestral effects.
The inbuilt sustain gives the necessary depth to the orchestral string effects, and reproduces the acoustics of a great concert hall. Another exciting feature is the percussion on the bass section.
Whether you wish to use the String Melody II as a solo instrument or as a third manual to your organ, be assured of new dimensions in sound that will thrill your audience.

Setting Buttons

"ORGAN" - gives an organ sound to all voices selected, plus electronic tremolo effect.

"ORCH" - a preset effect giving the sound of a whole string orchestra, and leaving the sliders free to be positioned for the next setting.

"SOLO" - gives the perfect solo sound of whatever instrument(s) you select on the sliders.

"ACC" - gives an accordion sound to all the voices, which can be mixed at will. Particularly effective when the "Attack" Sliders are used.

"O" - gives an "ensemble" sound for each of the instruments selected on the sliders. You can mix the various sections (Violins, Violas, Cellos and Bass) at will to build up your own individual orchestra.

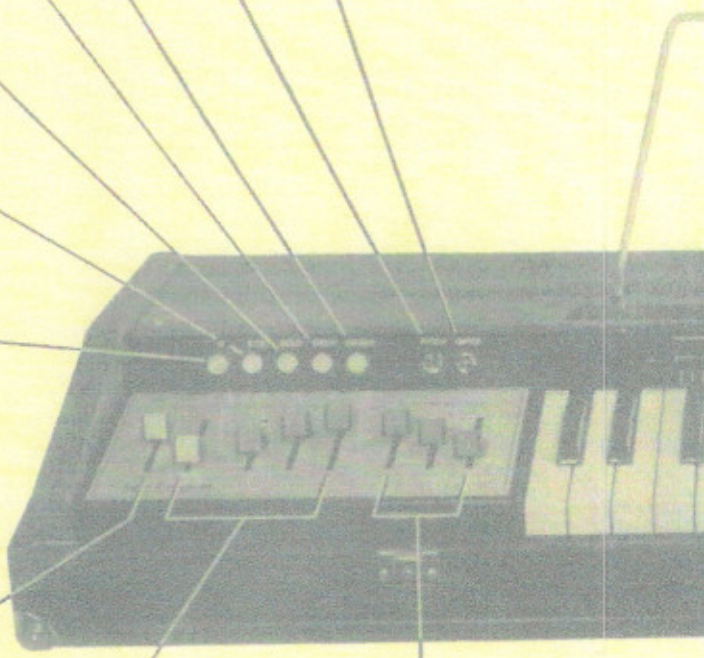
Pitch & Impedance Adjustment

PITCH

To ensure that the instrument is perfectly in tune with any other musical instrument used.

IMPEDANCE

To allow "Matching" when linked to another electronic musical instrument.



Voicing Sliders

BASS SECTION

Percussion Slider operative on all settings.

BASS SECTION

Violin, Viola, Cello, Bass, operative on all settings except "Orchestra".

TREBLE SECTION

Violin, Viola, Cello, operative on all settings except "Orchestra".

I See that the mains electrical cable is correctly attached to a fused plug according to the instructions on the label attached to the cable.

II Never remove the top cover except when the instrument is disconnected from the mains supply.

III If the instrument fails to function:-

(i) Check, and replace if necessary, the instrument fuse which is located 1½" to the right of where the mains cable enters the instrument at the back. This fuse can be replaced without removing the top cover of the instrument, and should be replaced only when the instrument is disconnected from the mains supply.

(ii) Check, and replace if necessary, the fuse in the mains plug.

(iii) If, after replacing one or both fuses, the instrument still fails to function, then disconnect it completely from the mains supply and contact your local supplier.

Attack & Sustain

BASS SECTION

Attack Slider (red) and Sustain Slider (blue) operate on all settings

TREBLE SECTION

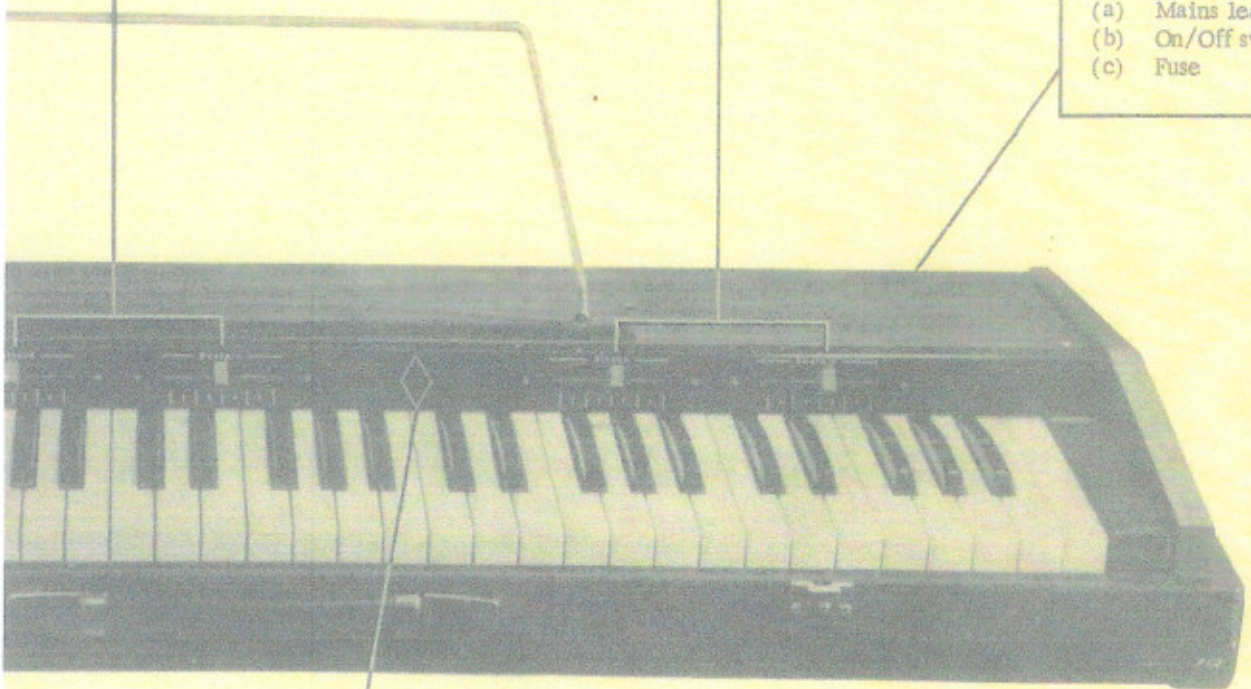
Attack Slider (red) and Sustain Slider (blue) operate on all settings.

Rear Panel

Output socket for volume pedal. Pedal is provided.

Output socket for lead to amplifier or organ. Lead is provided.

(a) Mains lead
(b) On/Off switch
(c) Fuse



TREBLE/BASS DIVIDING MARK

The two left hand octaves are the BASS SECTION. The two right hand octaves

U.K. Trade Distributors
JOHN HORNBY SKEWES & CO LTD
Salem House Garforth Leeds LS25 1PX England

Keyboard: 49 keys, C to C, divided into Bass Section (24 keys) and Treble Section (25 keys)

Voices (slider controls): Bass Section: Percussion, Bass, Cello, Viola, Violin.

Treble Section: Cello, Viola, Violin.

Attack: Seperate slider controls for Bass and Treble sections of the keyboard.

Sustain: Seperate slider controls for Bass and Treble sections of the keyboard.

Settings: "O", Accordion, Solo, Orchestra (preset), Organ.

Pitch Adjustment Control.

Impedance Adjustment Control.

Photocell Expression Pedal.

On/Off Switch.

Socket for external amplifier.

Socket for expression pedal.

Overall Dimensions

Length 40½" (103·5cm)
Width 15" (38·5cm)
Depth 6" (15cm)

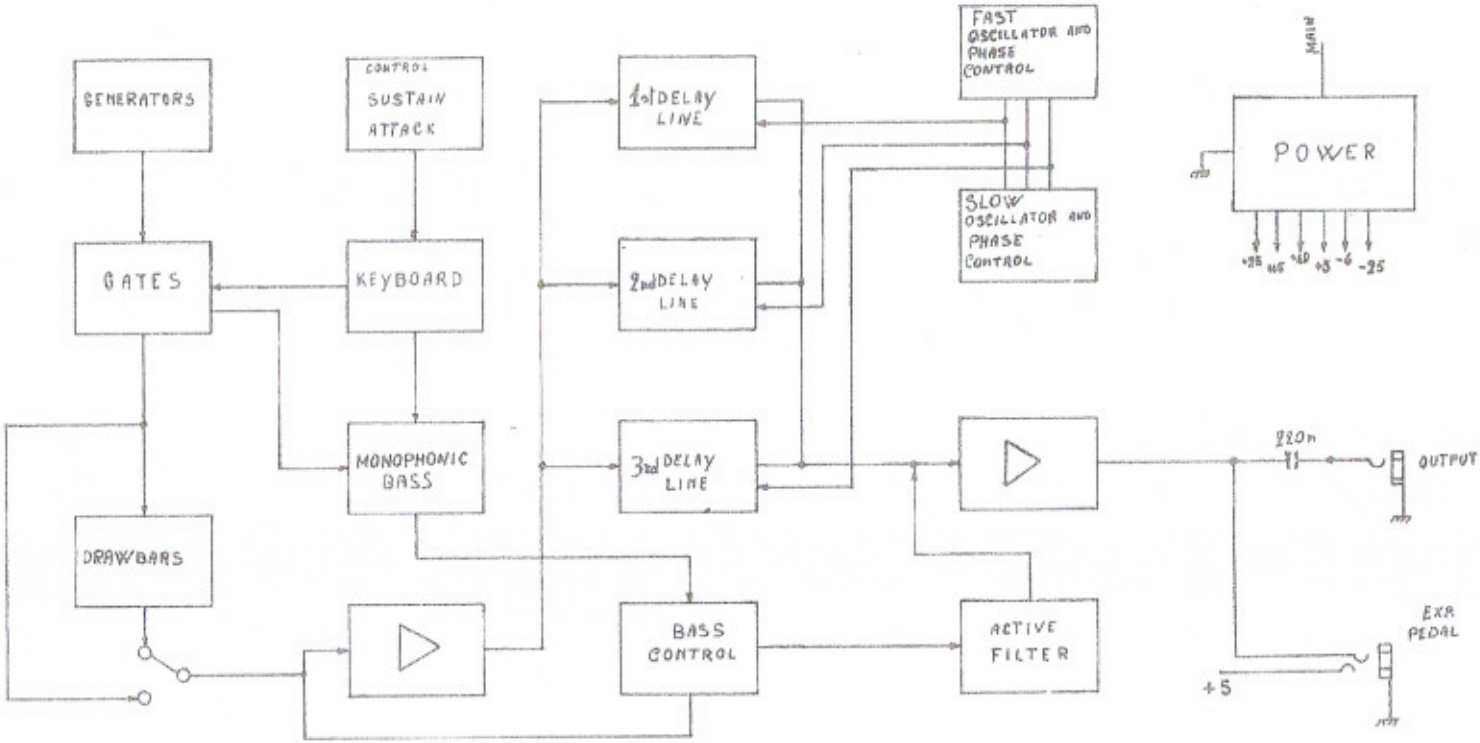
Supplied complete with amplifier-lead and expression pedal, in a suitcase styled cabinet.

JUST A MINUTE That's all it takes to load a...

Le Logan STRING MELODY II

STRING MELODY II

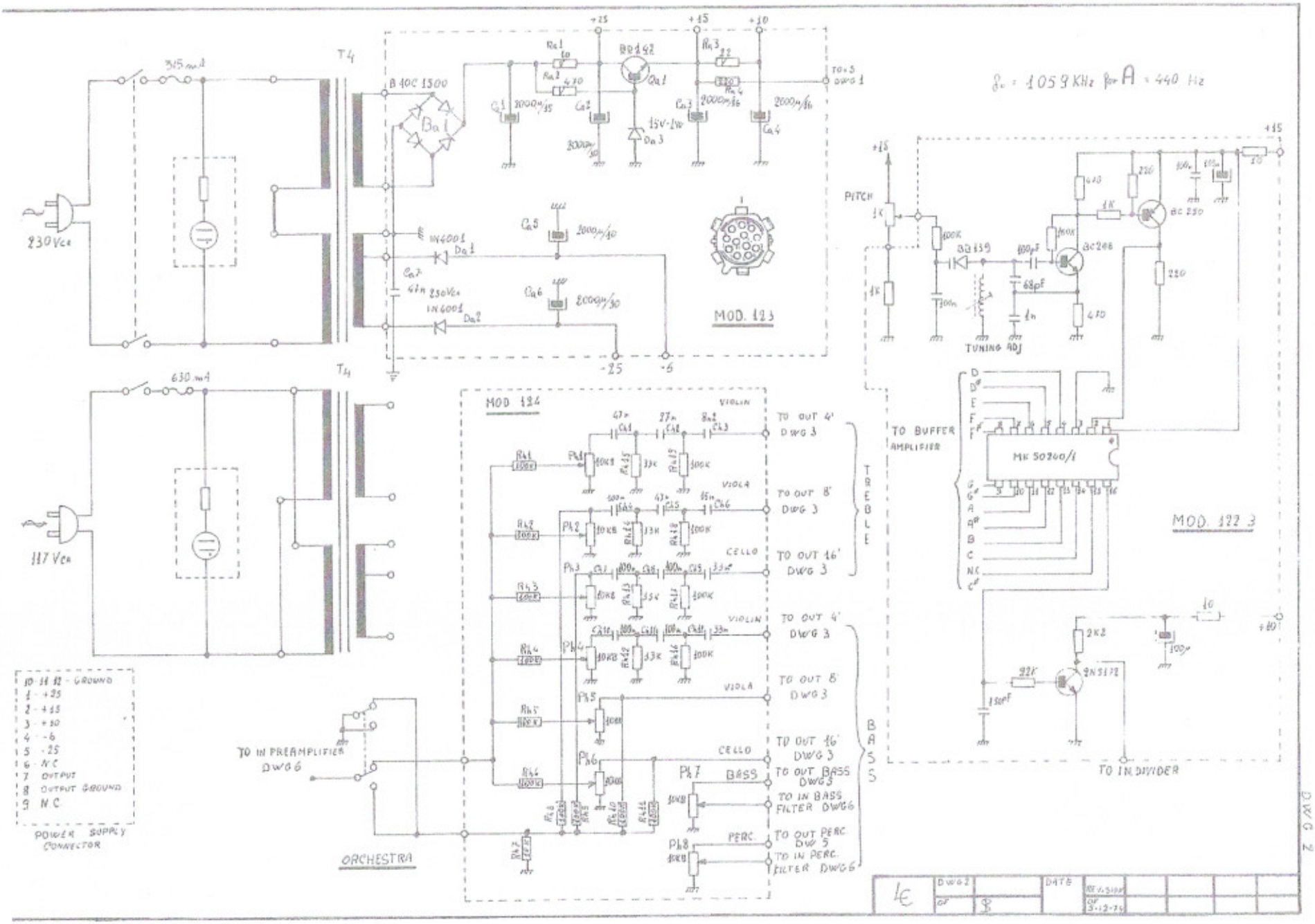
SCHEMATIC DIAGRAMS



OCK DIAGRAM

DWG 1

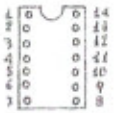
LE	DWG 1		DATE	REVISION					
	OF		5-8-74	OF					


230 Vca
345 mA
T4
B 40C 1500
Ba1
+25
+15
+10
Ra1 10
Ra2 470
Ra3 22
Ra4 22
BD 442
Qa1
Ca1 2000µ/35
Ca2 3000µ/50
Ca3 2000µ/16
Ca4 2000µ/16
15V-1W
Da3
TO +5 DWG 1
Ca5 µµ 2000µ/40
IN4001 Da1
Ca7 47n 250Vca
IN4001 Da2
Ca6 2000µ/50
MOD. 123
-25
-6
117 Vca
630 mA
MOD 124
VIOLIN
VIOLA
CELLO
BASS
PERC.
TO OUT 4' DWG 3
TO OUT 8' DWG 3
TO OUT 16' DWG 3
TO OUT 4' DWG 3
TO OUT 8' DWG 3
TO OUT 16' DWG 3
TO OUT BASS DWG 3
TO IN BASS FILTER DWG 6
TO OUT PERC. DWG 5
TO IN PERC. FILTER DWG 6
TREBLE
BASS
TO IN PREAMPLIFIER DWG 6
ORCHESTRA
10 11 12 - GROUND
1 - +25
2 - +15
3 - +10
4 - -6
5 - -25
6 - N.C
7 OUTPUT
8 OUTPUT GROUND
9 N.C
POWER SUPPLY CONNECTOR
fo = 1059 KHz for A = 440 Hz
PITCH
TUNING ADJ
BC 250
BC 286
BB 139
MK 50240/1
TO BUFFER AMPLIFIER
MOD. 122 3
2N5172
TO IN DIVIDER
DWG 2

MOD 117

N.B. a) THIS DIAGRAM SHOWS ONLY A SHARE OF THE CIRCUIT : ALL RELATIVE TO THE NOTE "A".

b) FOR "C" NOTE, THE DIVIDERS ARE 6



SOCKET FOR INTEGRATED CIRCUIT SAJ 210

IN DIVIDERS

1st DIVIDER

2nd DIVIDER

3rd DIVIDER

4th DIVIDER

5th DIVIDER

+15

TO 1 A_4

TO 1 A_3

TO 1 A_2

TO 1 A_1

TREBLE

OUT 4'

OUT 8'

OUT 16'

BASS

OUT 4'

OUT 8' C_{g23} 100n

OUT 16' C_{g24} 100n

LE	DWG 3		DATE	REVISION					
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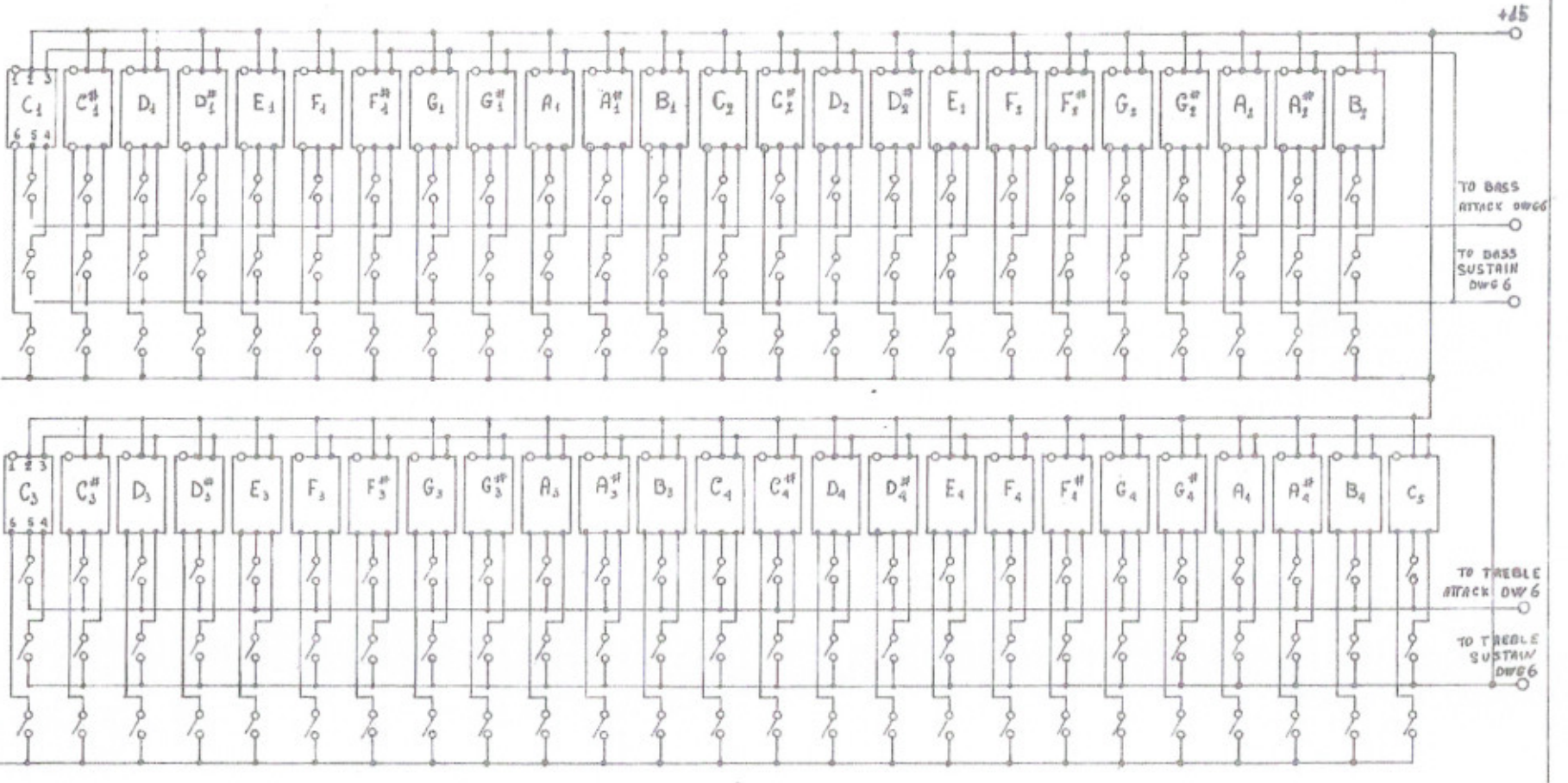
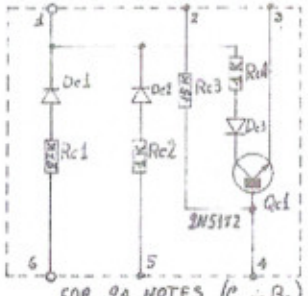
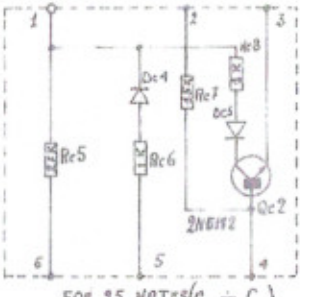
DWG 3





FOR 24 NOTES $(C_1 \div B_2)$

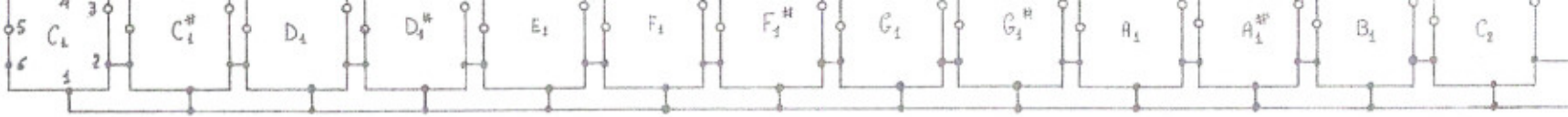


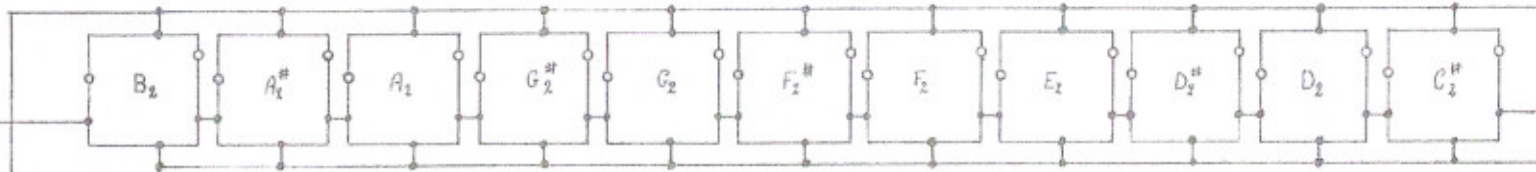
FOR 25 NOTES $(C_3 \div C_5)$

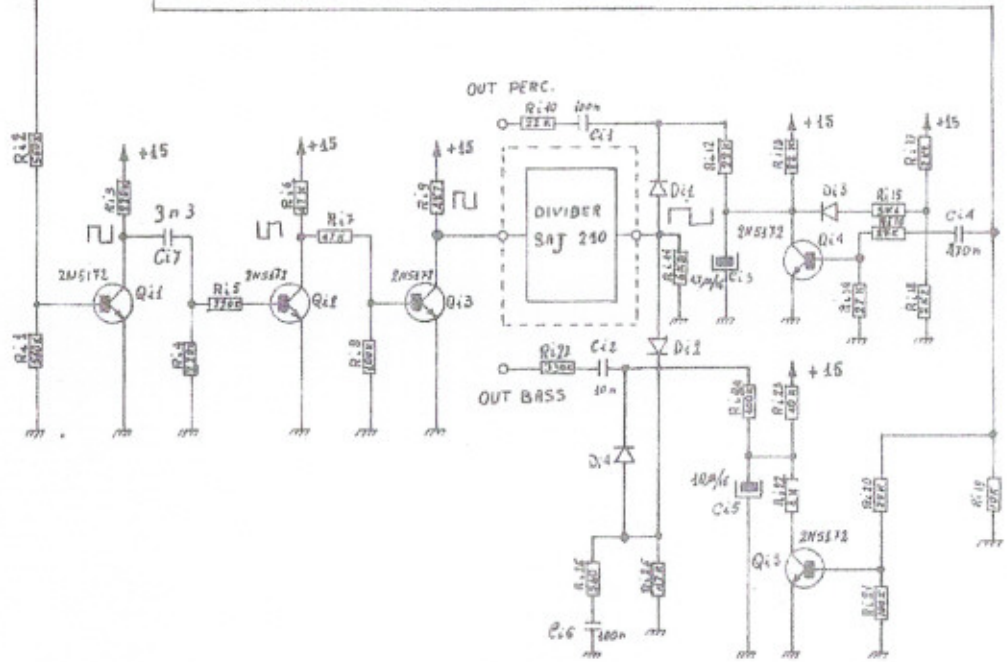
MOD 115

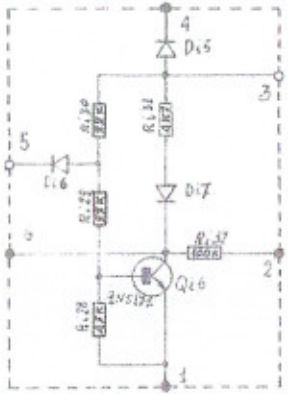
LE	DWG 4		DATE	REVISION					
	OF	8	5-8-74	OF					

DWG 4







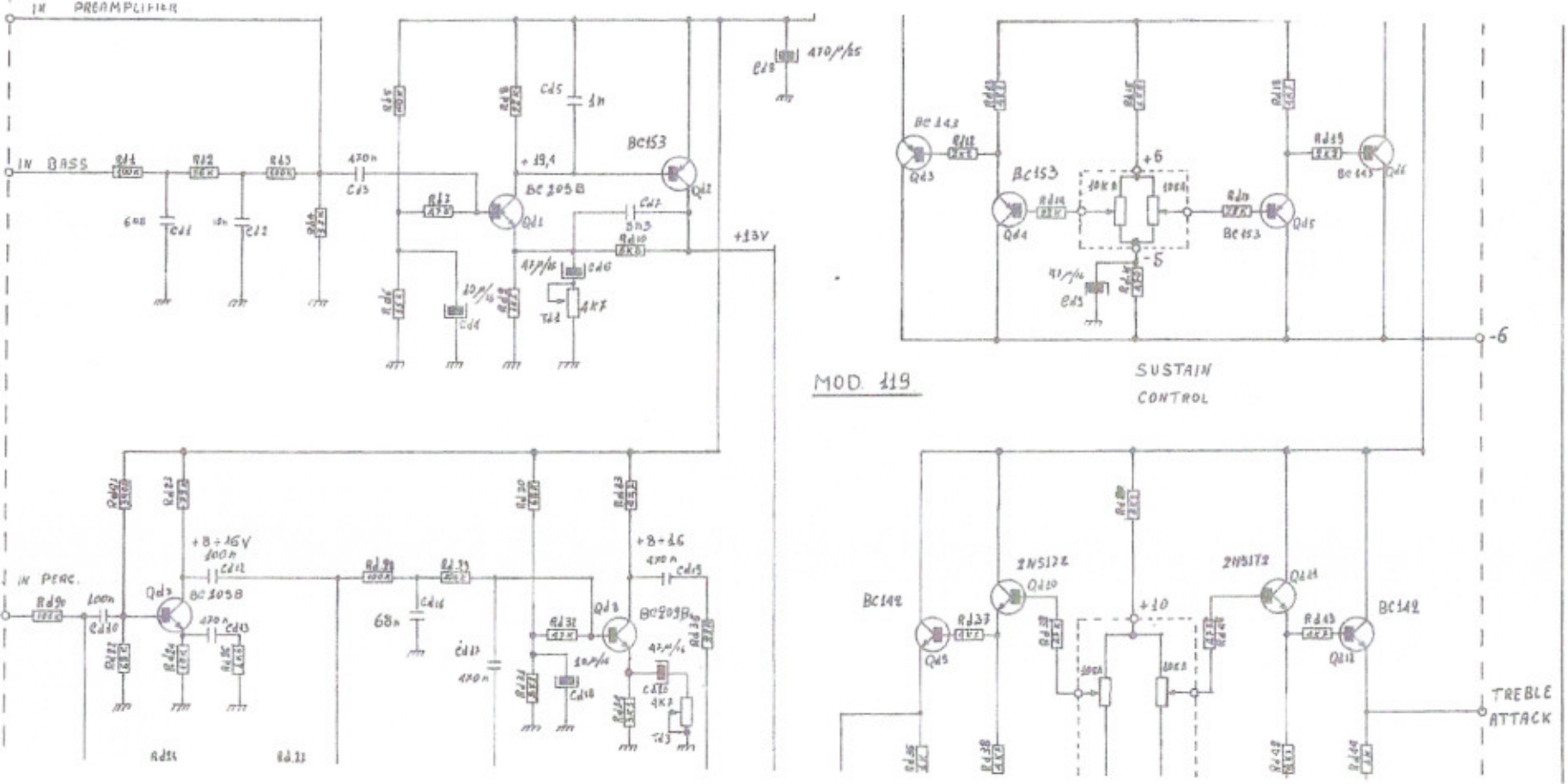


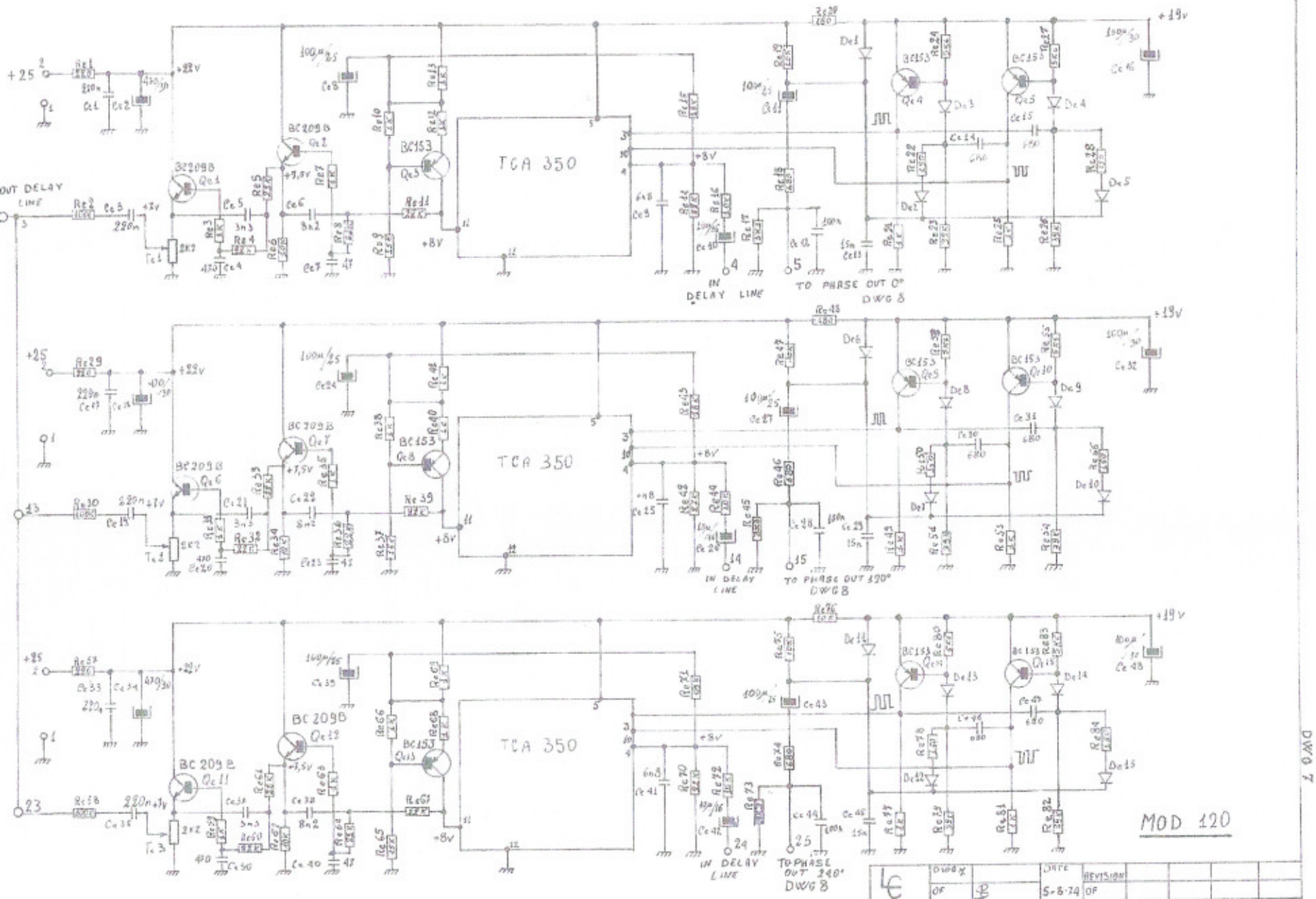
MOD. 118

NB. a) THE POINT 3 IS CONNECTED WITH POINT 6 OF THE 24 NOTES DWG 4

b) THE POINT 5 IS CONNECTED WITH RELATIVE FREQUENCY DIVIDER

LE	DWG 5 OF 8		DATE 5-8-74	VERSION 06				


IN PREAMPLIFIER
IN BASS
IN PERC.
BC153
BC 143
BC 148
2N5172
+13V
+B÷16V
+B÷27
+6
-6
+10
-10
MOD. 119
SUSTAIN
CONTROL
TREBLE
ATTACK


TCA 350
TCA 350
TCA 350
BC 209 B
BC153
IN DELAY LINE
TO PHASE OUT 0°
DWG 8
TO PHASE OUT 120°
DWG 8
TO PHASE OUT 240°
DWG 8
MOD 120
DWG 7
DATE
5-8-74
REVISION

Logan String Melody

Build from 1973 to 1976 it was one of the better string sound keyboards. It sounded better then the other italian string keyboards of that time. This was due to the fact, that each of the 49 keys got its own simple AD-envelope. This was way better then a simple on/off one of more organ like sounding string machines or one paraphonic envelope for all keys together.

The keyboard is always split int two nearly equal sized ranges. In each of these ranges you can mix a combination of three string sounds. Each string sound was a copy of the other but one octave higher in pitch.
And you can control the attack and the decay times per keyboard zone. Ranging from zero attack or decay to a smooth long one. Well scalled mins and maxes.

And on the black metal above the volume sliders you find the trim pot hole for adjusting the rather stable master pitch of this instrument. The push buttom right of this is labeled "Orchestra". This racIls a preset selection of all the available parameters. But don't be fooled, this will not imitate a real orchestra at all. It will just set the strings to a nice mix and envelope.

Of cause there is a ensemble effect added which sound very much like other ensemble effects based on tripple bucket brigade transistor arrays with two controlling LFOs. Like the one used in the ELKA Rhapsody, the Crumer Perfourmer or in the Wersi Voice effect. They technically very related and using sharing more or less the same parts. But with little changes here and there.

The Logan String Melody II (1977 - 1980) got addition parameters and added presets like ORGAN.
The Wersi version of this one also added parameters for changing more sound parameters. Including HAWAII (the typical Wersi 1 octave glide down and back upward again), simple tone controls and a pitchbend slider named SLALOM. Well, except for the tone control these are not the most usefull additions possible.

The left hand range also give you the option for adding a monophonic bass sound with extra volume and percusion attack control (the two yellow sliders to the very left).

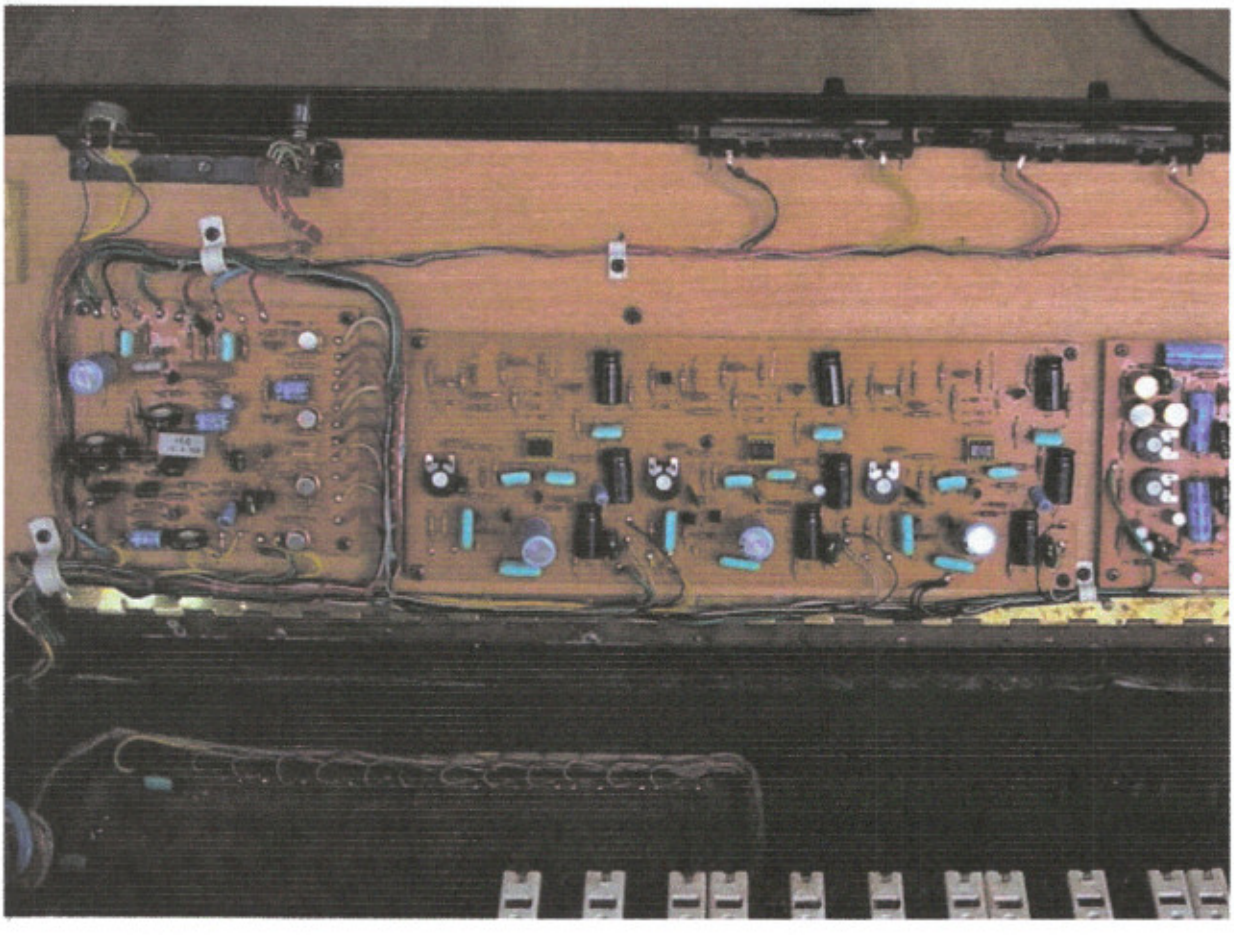
You open the Logan as easy as other italian string machines from this time: undo 2 screws on the top to open the top lid.

We see the monophonic bass board left and the master oscillator with the top octave divider chip on the small board in the middle. And the power supply on the very right

The descrete build master oscillator is tuned to 1059 kHz and feed into a MK50240/1 top octave divider chip (a M50241 like chip). This chips divides the ingoing top oscillator's square wave into 12 different squarewaves that are each tuned to one of the 12 notes of an equal tempered octave. These 12 signals are called the top octave, because they represent the highest available tuned to

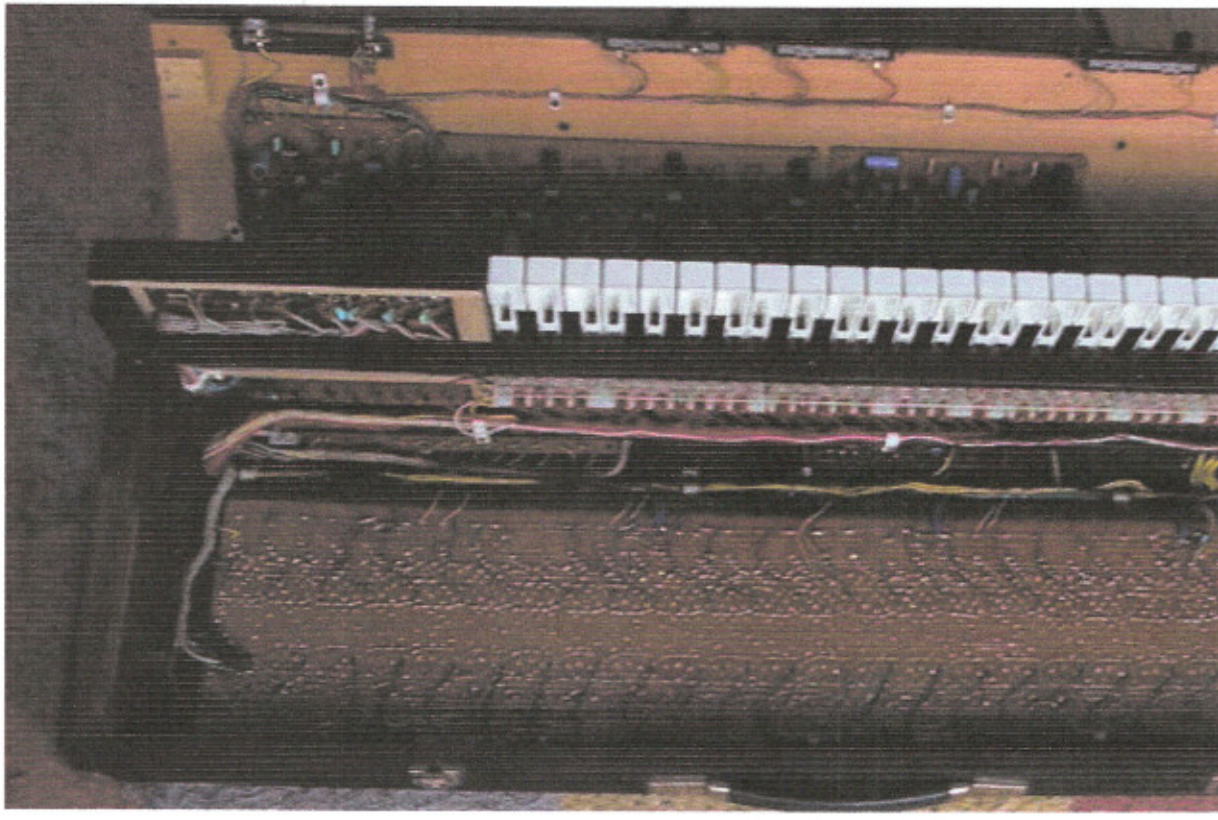
keyboard notes this instrument is able to play. Ranging from 4184,7708 Hz (a "B") to 2215,4812 Hz (a "C").

And undo screw on the bottom to be able to flap the keyboard action upwards to see what's below.



Under the top lid we see from left to right:

- The left board that does the needed bass and treble attack and sustain control voltages for each voice, controls the bass percussion envelope and does the preamplifying of the out signal
- this big board it the tripple transistor bucket brigade chorus using the then most widely used TCA350 chip as most italian string machines did
- On the right we have the two LFOs of the tripple chorus. One LFO is set to slow (about 0.6 Hz) while the other is set faster (6.0 Hz).
  Then each LFO is phase shifted by zero, 120° (1/3 of the cycle duty) and 240° (2/3 of the cycle duty). Each of the three differend phases is then mixed together with the same amount of phase shifted LFO at a ratio of 79% of the slow LFO and 21% of faster LFO.
  This gives a complex modulation of the choruses in order to get an ensemble effect.



Under keyboard is the big board with the electronics needed for each individual key. Each key uses a SAJ210 divider chip to divide the frequency of the top octave oscillator down to the desired key and to the three different octaves (4', 8' and 16') needed for this key.

Auswahl / Select

zu den Synthies
to the Synths